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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/633,904 | 08/04/2003 | YuanQiao Rao | 85019LMB | 7547 |

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EXAMINER

CHEA, THORL

ART UNIT PAPER NUMBER

1752

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,904

Applicant(s)

RAO ET AL.

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08042003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The status of the copending application on page 1 of the specification should be updated.

Appropriate correction is required.

2. Claim 12 is objected to because of the following informalities: "nm" to express the unit of the aspect ratio is improper. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "(w)herein said layered material comprises less than 10 % by weight of said at least one layer" in claims 1, 28 is unclear because the 10 % weight depend on at least one layer, which is include a multiple layers. In a situation wherein the material contains more than one layer, it is unclear whether the weight percent depend on one layer or a combination of layers or all of the layers of the material. See also similar language in claim 13. Claim 4 contains the language "such as ..." in "mixed function hardeners such as halogen- ..." is unclear as to whether to hardeners having function after "such as" are claimed or are exemplified. Claims 26-27 is unclear with respect to the language "(w)herein the Young's modulus of said support enhanced by at least 10 %" and "(w)herein the Young's modulus of said support enhanced by at least 20 %" is unclear with respect to the term "enhanced", and the

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percentage of 10 % and 20 % cannot be determined in the absence of providing the basis thereof.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5-23, 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Rao et al (US Patent No. 6,667,148)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Rao et al discloses the invention as claimed. See column 44 claim 27 which discloses a material comprising a support and a barrier layer containing material comprising inorganic filler comprising platelets of a phyllosilicate, the platelets having a length to thickness ratio of from about 20 to about 200 and being intercalated with one or more of a poly(vinyl alcohol), gelatin or a gelatin derivative, poly(ethylene oxide), or poly(vinyl pyrrolidone), the weight ratio of the platelets to the hydrophilic or water-

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dispersible polymer being from about 0.01:1 to about 0.1:1; the inorganic filler particle such as platelets of layered material including smectite clays such as montmorillonite having grain size of 0.01 to 1 micron and preferred aspect ratio of 20 to 200 in column 9; the inorganic filler particles which are intercalated or exfoliated with one or more hydrophilic polymer including gelatin in column 10, lines 25-53; the addenda such as surfactants, lubricant, matting agent, cross-linking agent, hardener and dyes in column 11, lines 8-14; the support material in column 28, lines 50-68; the amount of inorganic filler particles in the barrier layer from 3 to 10 weight % in column 11, lines 5-8. See composition of the inventive samples 1-12 in column 36-39. Rao et al as a whole disclose the invention as claimed. Therefore, the claimed invention lacks novelty.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al (US Patent No. 6,667,148) in view of the Applicants' disclosure on page 11 second paragraph or Taylor et al (US Patent No. 5,800,977). Rao et al suggest the use of hardener such as disclosed in the rejection above. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use a hardener known in the art such as disclosed in the applicants' disclosure or Taylor et al to increase the hardening rate of hydrophilic colloid taught in Rao et al, and thereby provide an invention as claimed.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al (US Patent No. 6,667,148) in view of the Eichorst et al (US Patent No. 6,300,049).

Eichorst et al discloses to provide an imaging layer a layer having dry weight coverage of 2 to 2000 mg/m². It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to provide an layer taught in Rao et al with a known dry thickness taught in Eichorst et al with a expectation of achieving a functional layer, and thereby provide an invention as claimed.

10. Claims 1-3, 5-29 are 5 U.S.C. 103(a) as being unpatentable over the combination of Christian et al (US Patent No. 6,060,230) and Beall et al (US Patent 5,552,469).

See Christian et al , the material in column 27-20 that has support an electrically conductive layer containing intercalate inside or exfoliate the smectite particle wherein the electrically-conductive layer has a dry thickness of 0.01 to 2 g/m², and the size of particle is from 0.005 micron to 0.05 micron; the polymeric binder that are capable of sufficiently intercalating inside or exfoliating smectite particles including water soluble polymer including hydrophilic colloid such as gelatin in column 10, lines 24-48; the basal spacing of 50 % or more as the clay to binder weight ratio changed from 100:0 to 30:70 in column 9, lines 5-40; the support in column 12, lines 49-68; and the 8.3 weight % of clay in table in column 23-24. Christian et al fails to disclose the size of the Smectite particle having aspect ratio of 20:1 to 500:1 presented in the claimed invention, but Beall et al disclose the platelets have an aspect ratio of about 200 to 2,000 in column 6, lines 7-20. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the swellable clay within having size taught

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in Beall et al with an expectation of achieving a material exhibiting excellent dry and wet adhesion, and thereby provide a material and process as claimed.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christian et al (US Patent No. 6,060,230) and Beall et al (US Patent 5,552,469) in view of the Applicants' disclosure on page 11 second paragraph or Taylor et al (US Patent No. 5,800,977). The hardening agents for hydrophilic colloid has been known in the art such as disclosed in the present specification disclosure and Taylor et al. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use a hardener known in the art such as disclosed in the applicants' disclosure or Taylor et al to increase the hardening rate of hydrophilic colloid taught in Christian et al, and thereby provide an invention as claimed.

Conclusion


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea 
November 24, 2004

Thorl Chea
Primary Examiner
Art Unit 1752

